



# UNCOVERING THE GAMING INDUSTRY'S HIDDEN GEMS: A COMPREHENSIVE ANALYSIS OF VIDEO GAME SALES

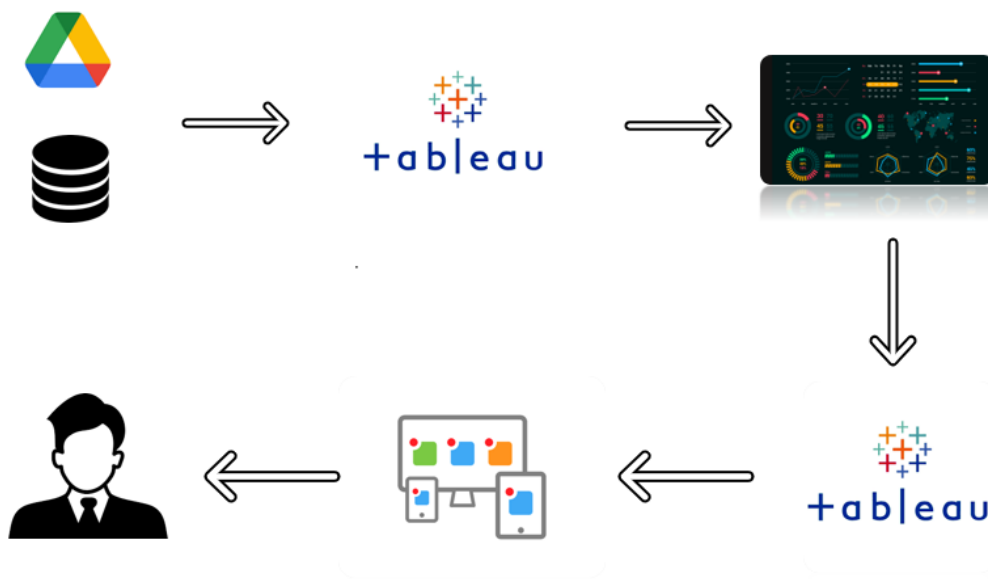
**Project Based Experiential Learning Program**

# Uncovering the Gaming Industry's Hidden Gems: A Comprehensive Analysis of Video Game Sales

Video game sales analysis is the process of collecting and analyzing data about the sales of video games in order to understand market trends and consumer behavior. This type of analysis can be useful for a variety of purposes, including identifying the most popular games and genres, predicting future sales, and developing marketing strategies. Video game sales analysis typically involves collecting data from Kaggle sources. It was generated by a scrape of vgchartz.com. This data may include information about the number of units sold, the retail price, and the platforms on which the games are played. Once the data has been collected, it is typically analyzed using tableau. The results of the analysis can be used to identify trends and patterns in the market, and to make informed decisions about the development and marketing of video games. Video game sales analysis may be conducted by game developers, publishers, retailers, and other industry professionals. It is an important part of the video game industry, as it helps to understand the needs and preferences of consumers and to identify opportunities for growth and innovation.

Analysing sales data from more than 16,500 games. This dataset contains a list of video games with sales greater than 100,000 copies. It was generated by a scrape of vgchartz.com.

## Technical Architecture:



## Project Flow

To accomplish this, we have to complete all the activities listed below,

- Define Problem / Problem Understanding
  - Specify the business problem
  - Business requirements
  - Literature Survey
  - Social or Business Impact.
- Data Collection & Extraction from Database
  - Collect the dataset,
  - Storing Data in DB
  - Perform SQL Operations
  - Connect DB with Tableau
- Data Preparation
  - Prepare the Data for Visualization
- Data Visualizations
  - No of Unique Visualizations
- Dashboard
  - Responsive and Design of Dashboard
- Story
  - No of Scenes of Story
- Performance Testing
  - Amount of Data Rendered to DB
  - Utilization of Data Filters
  - No of Calculation Fields
  - No of Visualizations/ Graphs
- Web Integration
  - Dashboard and Story embed with UI With Flask
- Project Demonstration & Documentation
  - Record explanation Video for project end to end solution
  - Project Documentation-Step by step project development procedure

## **Milestone 1: Define Problem / Problem Understanding**

### **Activity 1: Specify the business problem**

Refer Project Description

### **Activity 2: Business requirements**

Business requirements for analyzing video game sales would include data on the sales of specific video games, information on the gaming industry as a whole, and data on consumer demographics and purchasing habits. This information can be used to identify trends and make informed decisions on marketing and development strategies for future video game releases. Additionally, it's also important to have information on platform sales, region, and competition in the market.

### **Activity 3: Literature Survey (Student Will Write)**

Video Game Industry Analysis: Insights and Forecast- by Research and Markets (2016)  
This report provides a comprehensive analysis of the global video game industry, "Video Game Industry: Current Trends and Future Opportunities" by PwC (2019) - This report analyzes the current state of the global video game industry, including market size and growth, revenue streams, and consumer demographics. It also explores future opportunities for the industry, such as the potential for virtual reality and mobile gaming.

"Global Video Game Market: Size, Trends & Forecasts (2018-2022)" by Daedal Research (2018) - This report provides a detailed analysis of the global video game market, including market size and growth, segmentation by platform, and regional trends. It also includes market forecasts for the next five years.

"Video Game Sales by Platform: A Comparative Analysis" by Newzoo (2017) - This report compares the sales of video games across different platforms, including consoles, PC, and mobile. It also includes data on the top-selling games for each platform and analyses trends in the industry.

### **Activity 4: Social or Business Impact.**

Social Impact:

Increased social interaction and connection through online multiplayer gaming.  
Increased awareness and representation of diverse groups in the gaming industry.  
Increased accessibility to gaming through mobile and online platforms. Increased use of gaming as a form of therapy or rehabilitation

Business Impact:

Increased revenue for the gaming industry. Increased competition among game developers and publishers. Increased investment in research and development for new technologies and platforms. Increased use of data analytics to track player behaviour and improve game design. Increased use of microtransactions and in-game purchases for additional revenue streams.

## **Milestone 2: Data Collection & Extraction from Database**

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes and generate insights from the data.

### **Activity 1: Collect the dataset**

Please use the link to download the dataset: [here](#)

#### **Activity 1.1: Understand the data**

The data source of this project contains a list of video games with sales greater than 100,000 copies. It was generated by a scrape of vgchartz.com.

Fields include

1. Rank - Ranking of overall sales
2. Name - The games name
3. Platform - Platform of the games release (i.e. PC, PS4, etc.)
4. Year - Year of the game's release
5. Genre - Genre of the game
6. Publisher - Publisher of the game
7. NA\_Sales - Sales in North America (in millions)
8. EU\_Sales - Sales in Europe (in millions)
9. JP\_Sales - Sales in Japan (in millions)
10. Other\_Sales - Sales in the rest of the world (in millions)
11. Global\_Sales - Total worldwide sales.

### **Activity 2: Storing Data in DB & Perform SQL Operations**

Explanation video link:

[https://drive.google.com/file/d/1W3ipdcrHCfOAX2Sn86wkfCRBFxg-mS3/view?usp=share\\_link](https://drive.google.com/file/d/1W3ipdcrHCfOAX2Sn86wkfCRBFxg-mS3/view?usp=share_link)

### **Activity 3: Connect DB with Tableau**

Explanation video link:

[https://drive.google.com/file/d/1W3ipdcrHCfOAX2Sn86wkfCRBFxg-mS3/view?usp=share\\_link](https://drive.google.com/file/d/1W3ipdcrHCfOAX2Sn86wkfCRBFxg-mS3/view?usp=share_link)

## **Milestone 3: Data Preparation**

### **Activity 1: Prepare the Data for Visualization**

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency.

## **Milestone 4: Data Visualization**

Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

### **Activity 1: No of Unique Visualizations**

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of Radisson Hotels include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of sales of Games.

#### **Activity 1.1: Sales in different region Analysis**

Explanation video link:

[https://drive.google.com/file/d/16sHu4Sa6nK3rISJ3jzd\\_Eyy7Hxo4\\_xS/view?usp=share\\_link](https://drive.google.com/file/d/16sHu4Sa6nK3rISJ3jzd_Eyy7Hxo4_xS/view?usp=share_link)

#### **Activity 1.2: Genre with rank Analysis**

Explanation video link:

[https://drive.google.com/file/d/197SQXo1\\_KlhJDkkuN-3wkN5n8ZF5CUu\\_/view?usp=share\\_link](https://drive.google.com/file/d/197SQXo1_KlhJDkkuN-3wkN5n8ZF5CUu_/view?usp=share_link)

#### **Activity 1.3: Total Sales Analysis**

Explanation video link:

[https://drive.google.com/file/d/1oj3zH5OfBuYCE3ou-KocrS2byzAciC-p/view?usp=share\\_link](https://drive.google.com/file/d/1oj3zH5OfBuYCE3ou-KocrS2byzAciC-p/view?usp=share_link)

#### **Activity 1.4: Top 5 publishers Analysis**

**Explanation video**

**link:**[https://drive.google.com/file/d/1nWFpVRv-ne4zurKCC5A9NQtiwRoluhLh/view?usp=share\\_link](https://drive.google.com/file/d/1nWFpVRv-ne4zurKCC5A9NQtiwRoluhLh/view?usp=share_link)

**Activity 1.5 Best 10 selling genres on platform Analysis**

**Explanation video link:**

[https://drive.google.com/file/d/1ZUhFT8ubvmZGnnzPp1iZWE25tcZWuTVX/view?usp=share\\_link](https://drive.google.com/file/d/1ZUhFT8ubvmZGnnzPp1iZWE25tcZWuTVX/view?usp=share_link)

**Activity 1.6: Top 10 EU selling video games Analysis**

**Explanation video link:**

[https://drive.google.com/file/d/1zm4cmQ4YVO\\_3T\\_BWuXimWrvkm7NEjNhd/view?usp=share\\_link](https://drive.google.com/file/d/1zm4cmQ4YVO_3T_BWuXimWrvkm7NEjNhd/view?usp=share_link)

**Activity 1.7 Top 10 Japan selling video games Analysis**

**Explanation video link:**

[https://drive.google.com/file/d/1JPz3s73\\_METmyo7QJm1ioNhWGCKfB8/view?usp=share\\_link](https://drive.google.com/file/d/1JPz3s73_METmyo7QJm1ioNhWGCKfB8/view?usp=share_link)

**Activity 1.8: Top 10 NA selling video games**

**Explanation video link:**

[https://drive.google.com/file/d/1253HcByFotBouaUO0qv1BLS\\_mLTcPQT9/view?usp=share\\_link](https://drive.google.com/file/d/1253HcByFotBouaUO0qv1BLS_mLTcPQT9/view?usp=share_link)

## Milestone 5: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data, and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

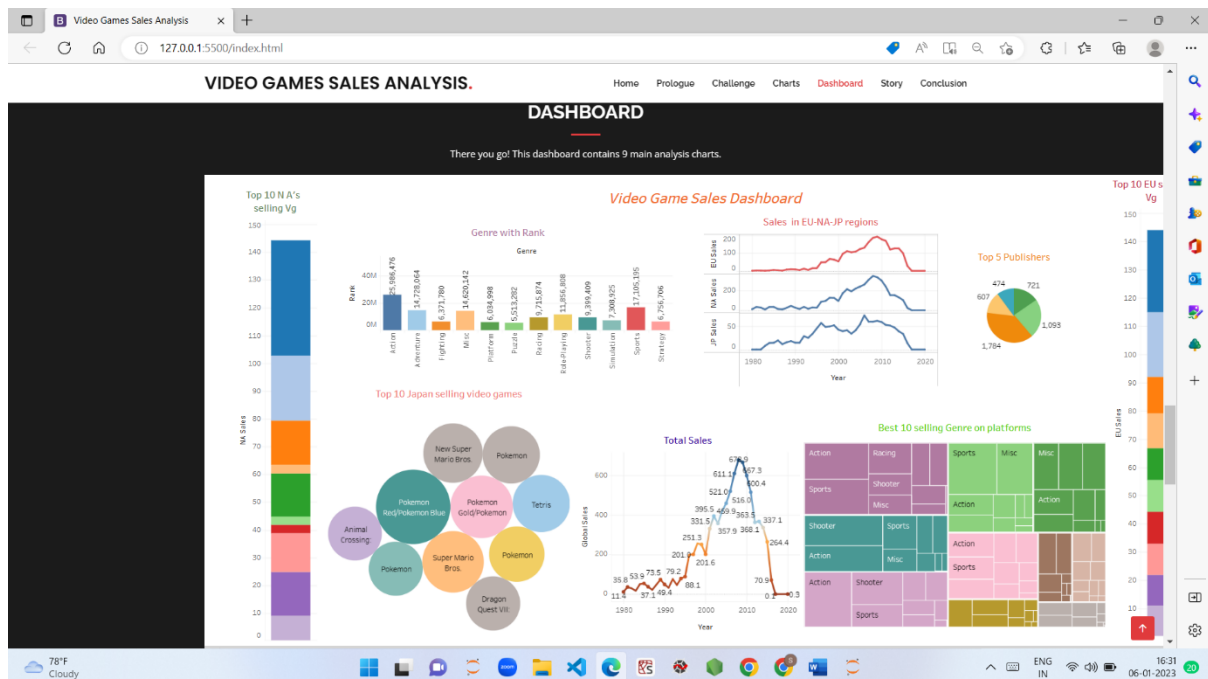
### Activity :1- Responsive and Design of Dashboard

The responsiveness and design of a dashboard for analyzing the performance and efficiency of Radisson Hotels is crucial to ensure that the information is easily understandable and actionable. Key considerations for designing a responsive and effective dashboard include user-centered design, clear and concise information, interactivity, data-driven approach, accessibility, customization, and security. The goal is to create a dashboard that is user-friendly, interactive, and data-driven, providing actionable insights to improve the performance and efficiency of Radisson Hotels.

Once you have created views on different sheets in Tableau, you can pull them into a dashboard.

Explanation video link:

[https://drive.google.com/file/d/1q\\_KbJMFMB6l40a0eLuSnYef4KJdG\\_dI/view?usp=share\\_link](https://drive.google.com/file/d/1q_KbJMFMB6l40a0eLuSnYef4KJdG_dI/view?usp=share_link)





## Milestone 6: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

### Activity:1- No of Scenes of Story

The number of scenes in a storyboard for a data visualization analysis of the performance and efficiency of video games analysis will depend on the complexity of the analysis and the specific insights that are trying to be conveyed. A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.

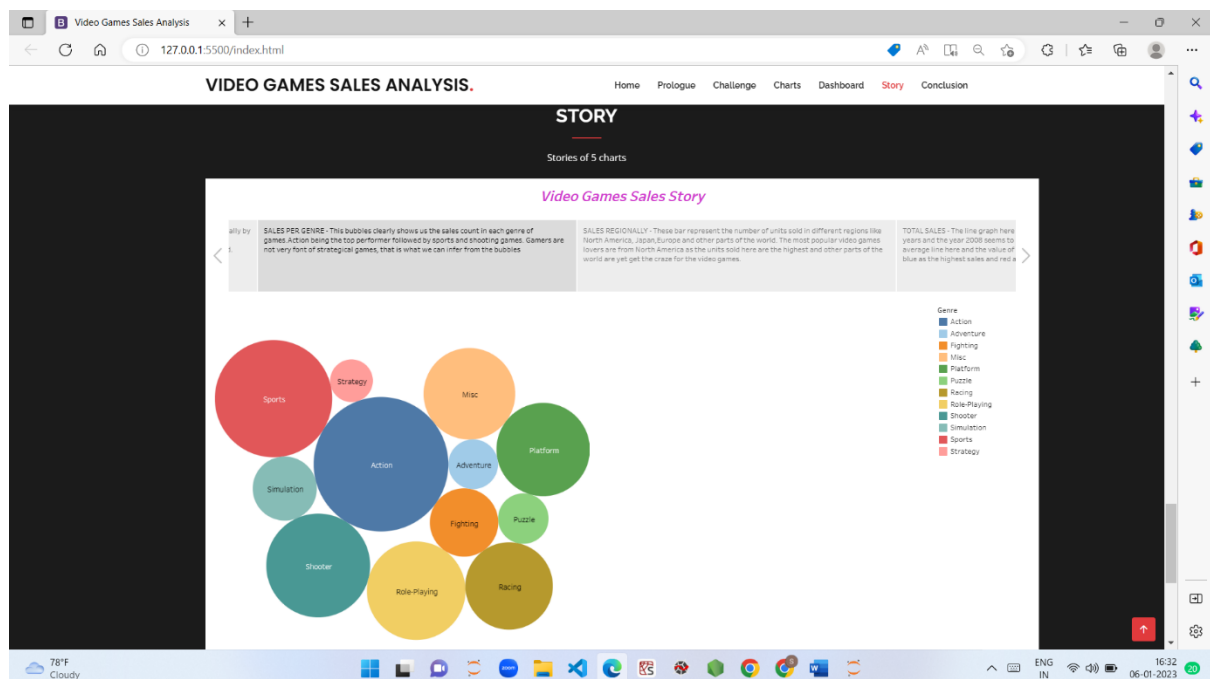
**Explanation video link:**

#### Story Part 1:

<https://drive.google.com/file/d/1Ece7JJN8IEET4tnhH0IxWPP84y0yz8UN/view?usp=s>  
[hare\\_link](#)

#### Story Part 2:

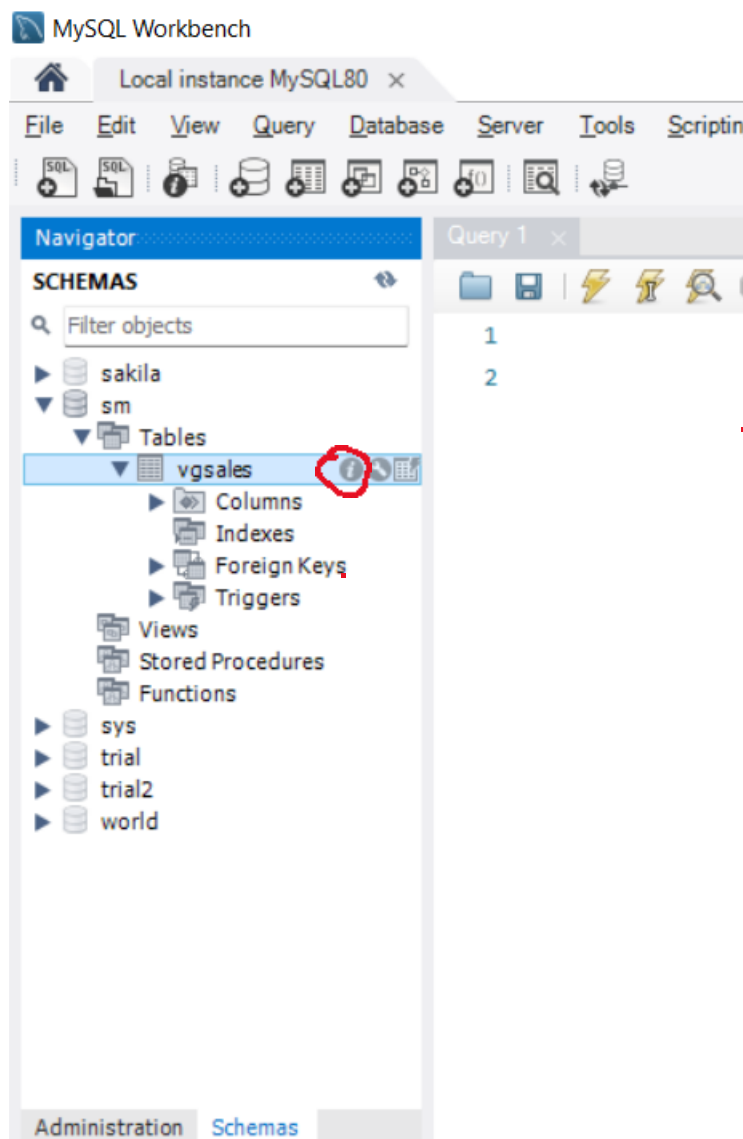
<https://drive.google.com/file/d/1LhQqrYfWKAgsmsg8K36mRHsBLYvv9j8rn/view?usp=s>  
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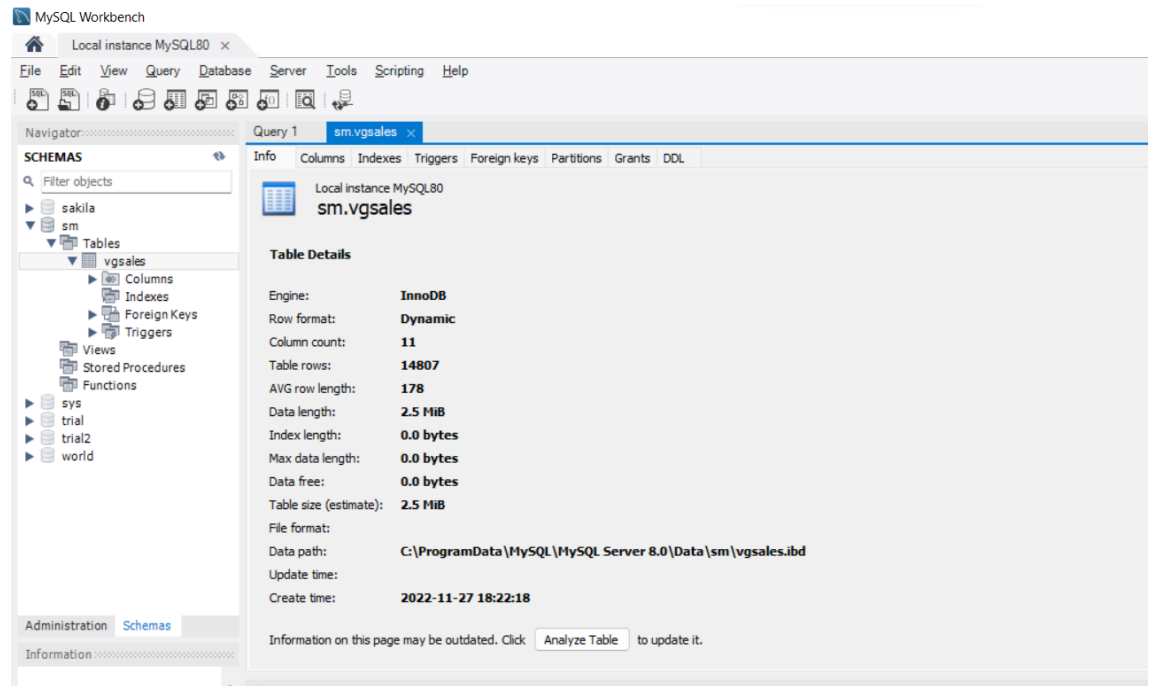


## Milestone 7: Performance Testing

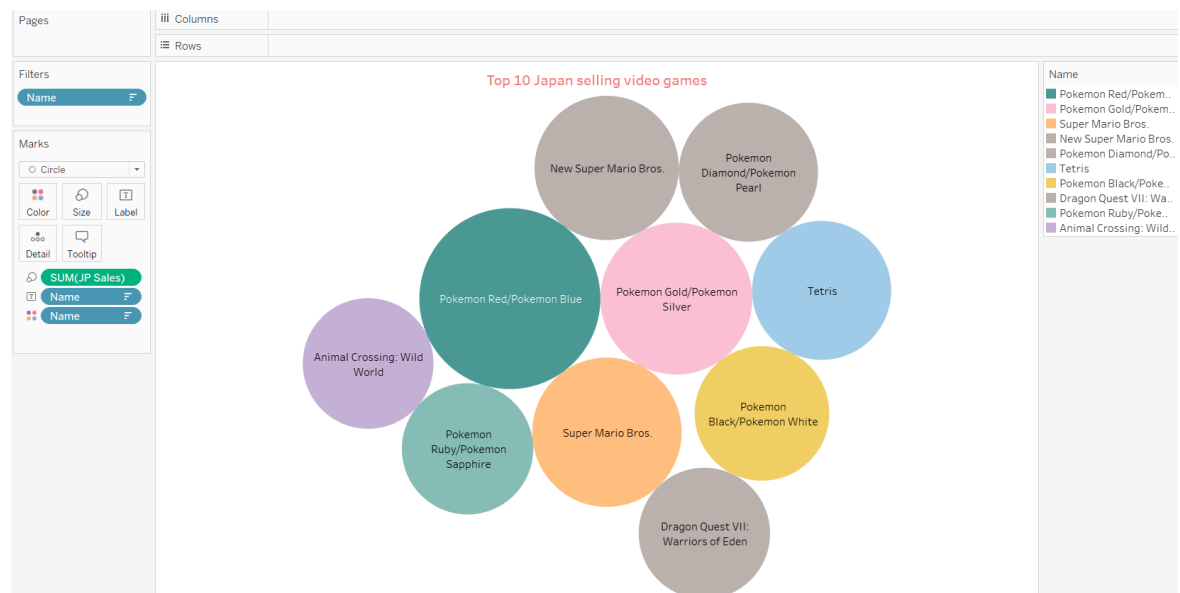
### Activity 1: Amount of Data Rendered to DB

- The amount of data that is rendered to a database depends on the size of the dataset and the capacity of the database to store and retrieve data.
- Open the MySQL Workbench, go to the database then click to expand the tables, select the table and click on (i) button to get the information related to table such as column count, table rows etc.





## Activity 2: Utilization of Data Filters



### Activity 3: No of Visualizations/ Graphs

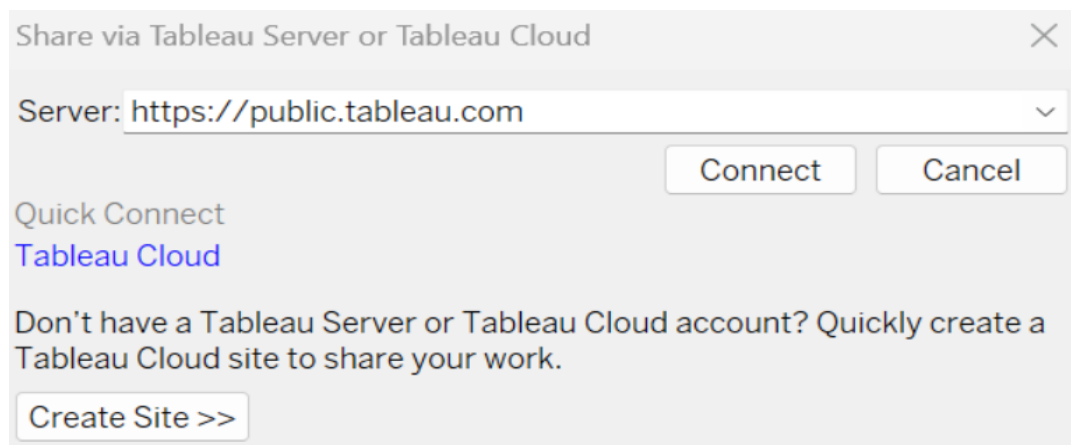
1. Sales in different region Analysis
2. Genre with rank Analysis
3. Total Sales Analysis
4. Top 5 publishers Analysis
5. Best 10 selling genres on platform Analysis
6. Top 10 EU selling video games Analysis
7. Top 10 Japan selling video games Analysis
8. Top 10 NA selling video games

### Milestone 8: Web integration

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

#### **Publishing dashboard and reports to tableau public**

Step 1: Go to Dashboard/story, click on share button on the top ribbon



Share via Tableau Server or Tableau Cloud

Server:

Quick Connect  
Tableau Cloud

Don't have a Tableau Server or Tableau Cloud account? Quickly create a Tableau Cloud site to share your work.

Give the server address of your tableau public account and click on connect.

#### **Explanation Video:-**

<https://drive.google.com/file/d/1AKAk2hiVYqS3td148uHbXr-Nk-k0uxET/view?usp=sharing>


**Step 2:** Once you click on connect it will ask you for tableau public user name and password

**+tableau+public**

Email

Password

**Sign In**

 This site is SSL encrypted

[Forgot your password?](#)  
[Don't have a profile yet?](#)  
**Create one now for free**

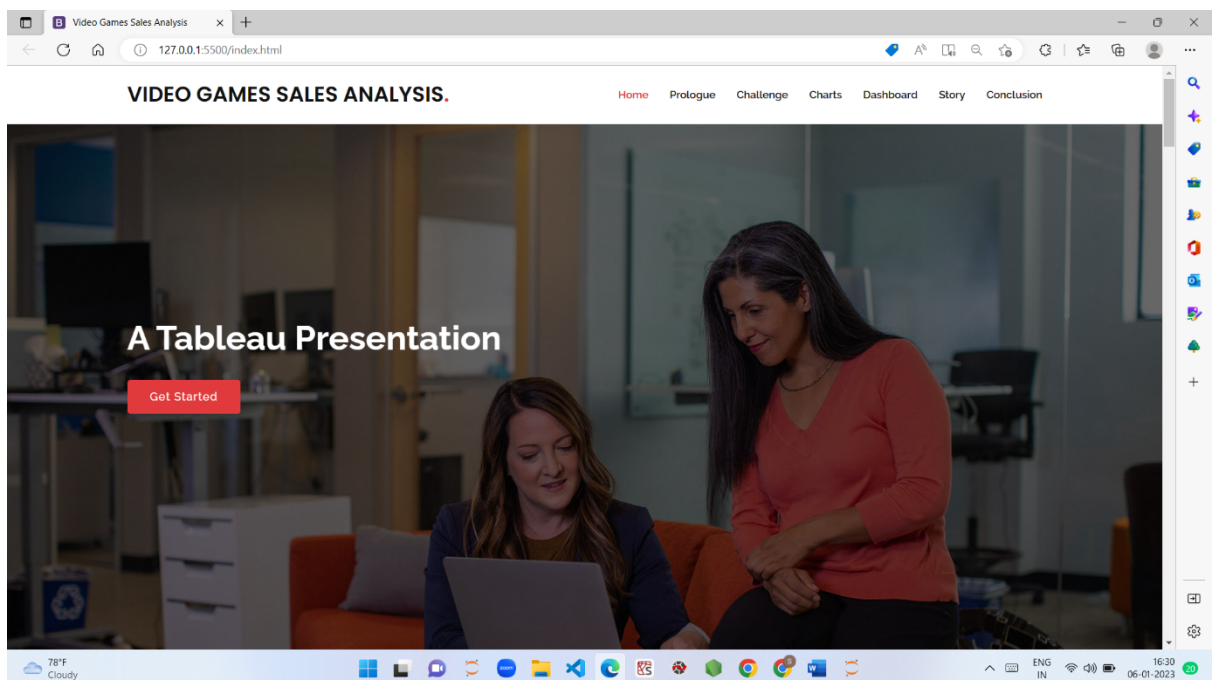
Once you login into your tableau public using the credentials, the particular visualization will be published into tableau public

**Note: While publishing the visualization to the public, the respective sheet will get published when you click on share option.**

## Activity 1: Dashboard and Story embed with UI With Flask

Explanation video link:

[https://drive.google.com/file/d/1-bT8uoV0PR\\_1yShJ2X56sL3LOc-9a8v4/view?usp=share\\_link](https://drive.google.com/file/d/1-bT8uoV0PR_1yShJ2X56sL3LOc-9a8v4/view?usp=share_link)



VIDEO GAMES SALES ANALYSIS.

Home Prologue Challenge Charts Dashboard Story Conclusion

Video Games since its inception has touched many souls by their augmented reality and graphics, apart from being a good to boredom it also shows us the way technology has been developed from single Nintendo to PS5, from road rash to God of war.

This project is a complete analysis of video games sold since 1980. It consists of video games with their publisher and platform with the genre of games on which year they were published with the sales they made in North America, Japan, Europe and other regions.

VIDEO GAMES SALES ANALYSIS.

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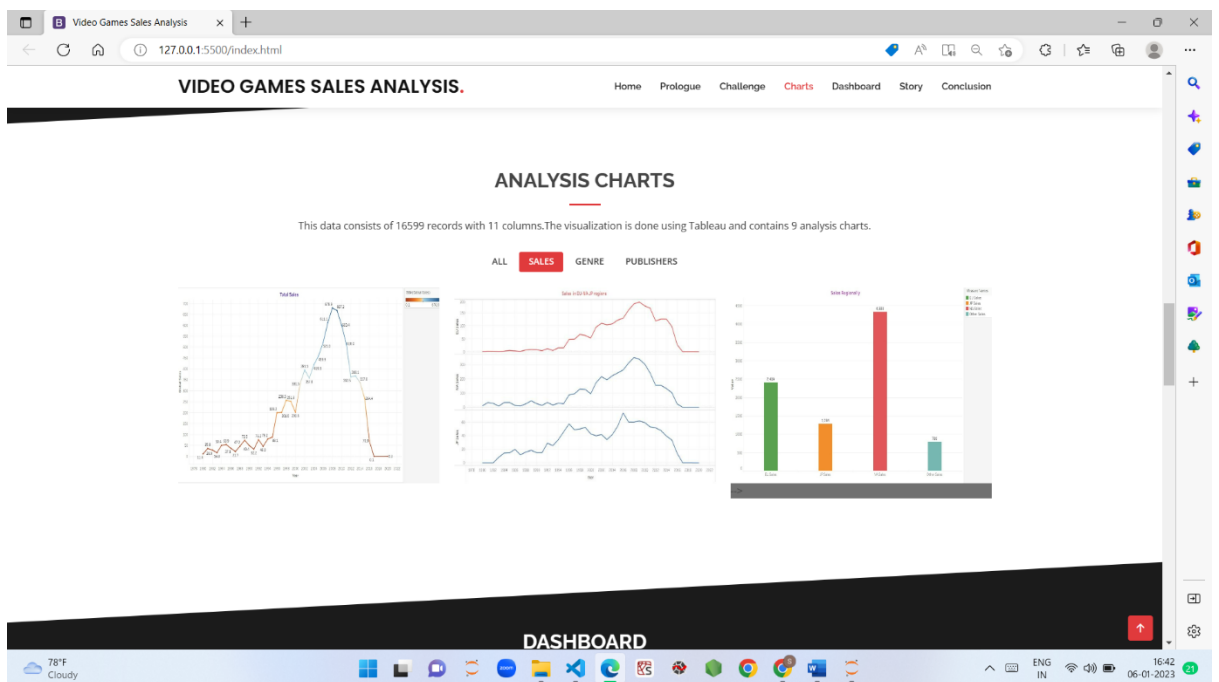
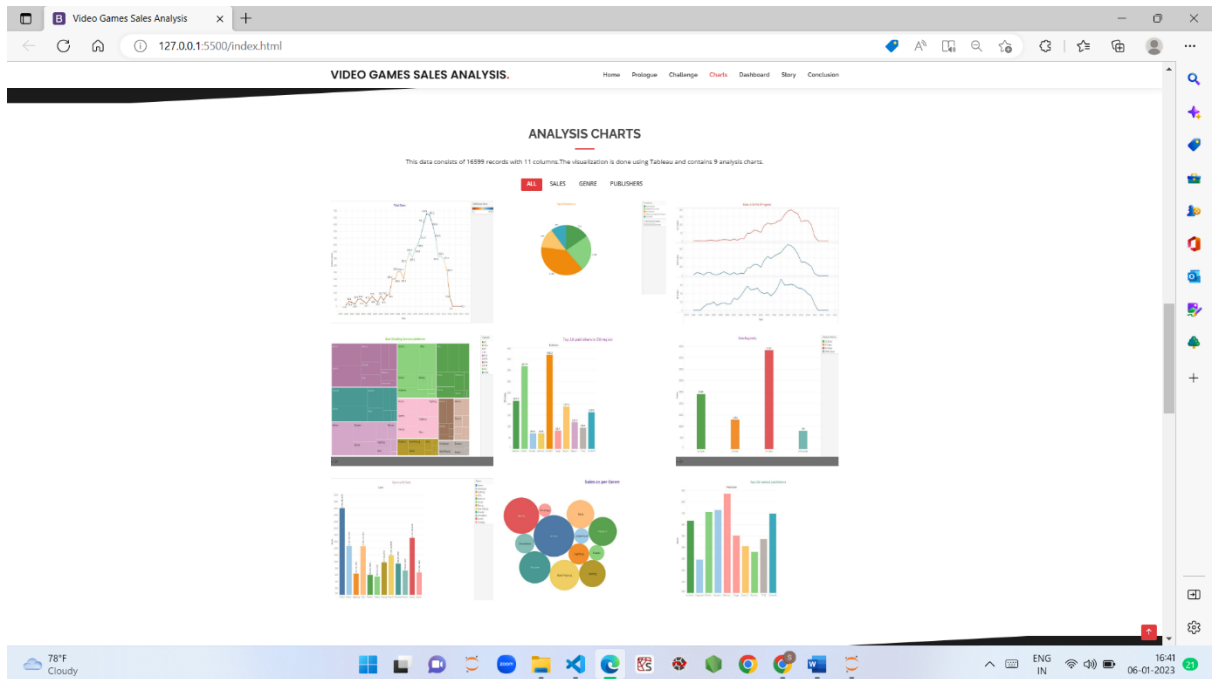
### CHALLENGES

Analyzing sales data from more than 16,000 games. This dataset contains a list of video games with sales greater than 100,000 copies. It was generated by a scrape of [vglist.games](#).  
Let us check some top sale video games

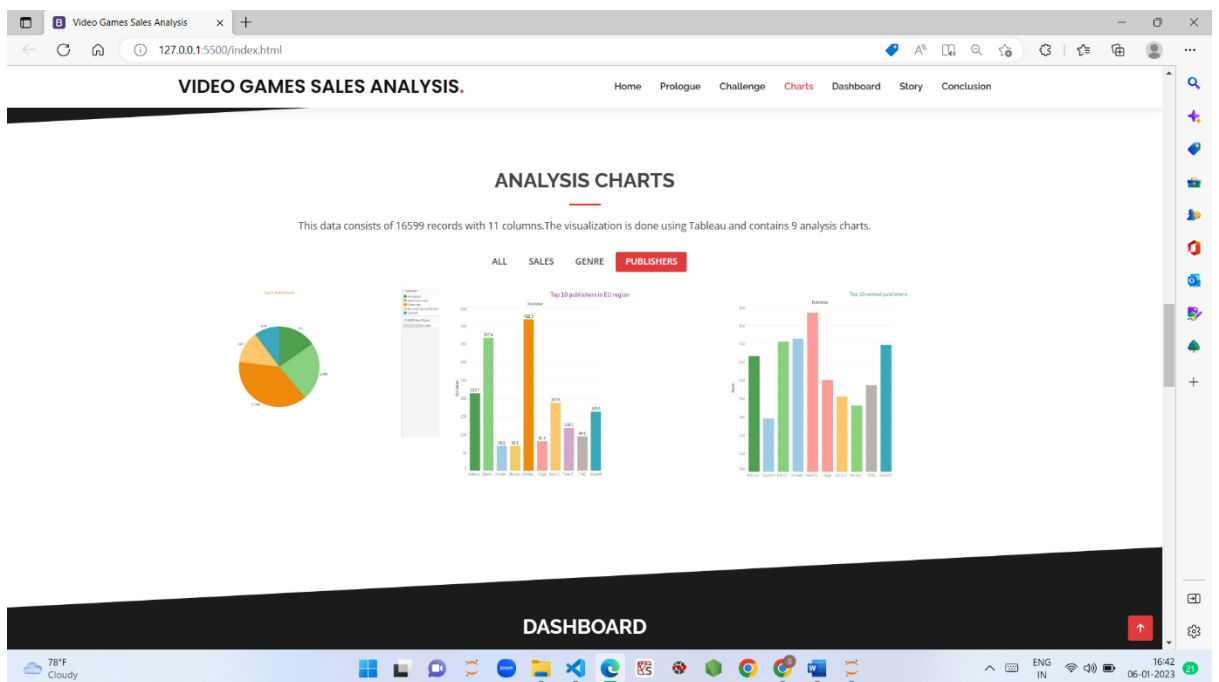
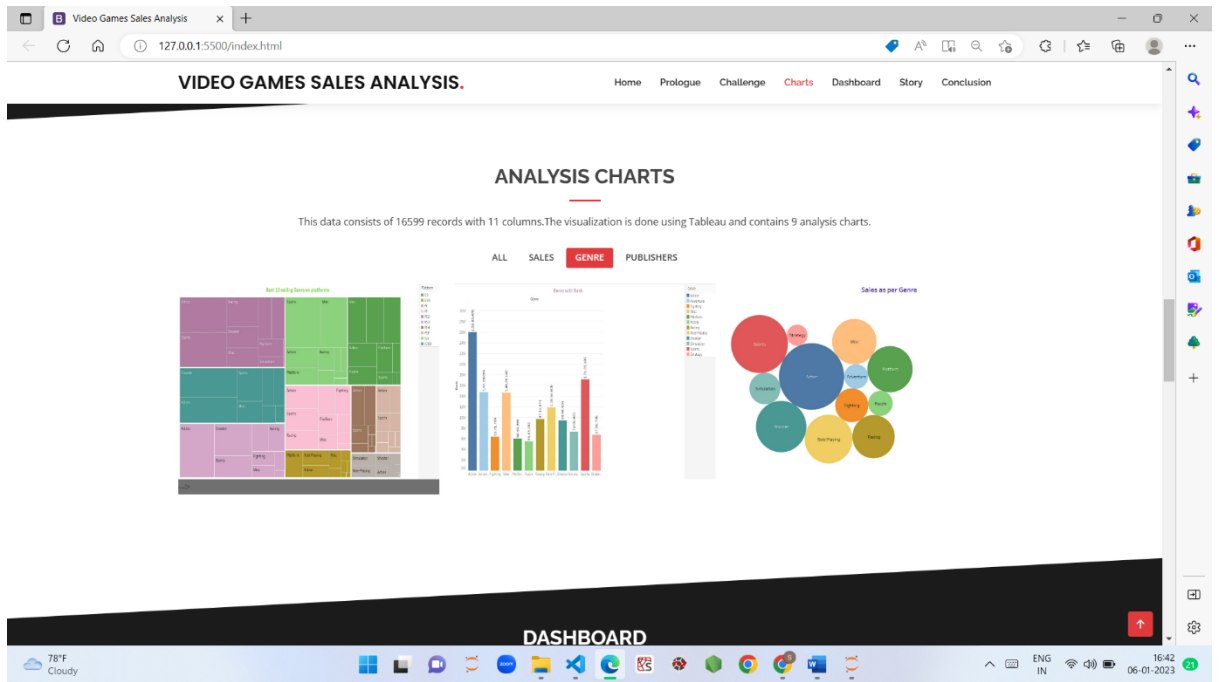
<b>Super Mario Bros</b> Super Mario Bros is a platform game developed and published by Nintendo for the Nintendo Entertainment System (NES).	<b>Wii Sports</b> Wii Sports is a 2006 sports simulation video game developed and published by Nintendo for the Wii video game console.
<b>Pokemon Red/Pokemon Blue</b> Pokemon Red Version and Pokemon Blue Version are 1996 role-playing video games developed by Game Freak and published by Nintendo for the Game Boy.	<b>Grand Theft Auto IV</b> Grand Theft Auto IV is a 2008 action-adventure game developed by Rockstar North and published by Rockstar Games. It is the sixth main entry in the Grand Theft Auto series, following 2001's Grand Theft Auto: San Andreas.
<b>Mine craft</b> Minecraft is a sandbox game developed by Mojang Studios. The game was created by Markus "Notch" Persson in the Java programming language. It is the best-selling video game of all time, with over 238 million copies sold and nearly 140 million monthly active players as of 2023, and has been ported to several platforms.	<b>FIFA 16</b> FIFA 16 is a football simulation video game developed by EA Canada and published by Electronic Arts under the EA Sports label.

### ANALYSIS CHARTS

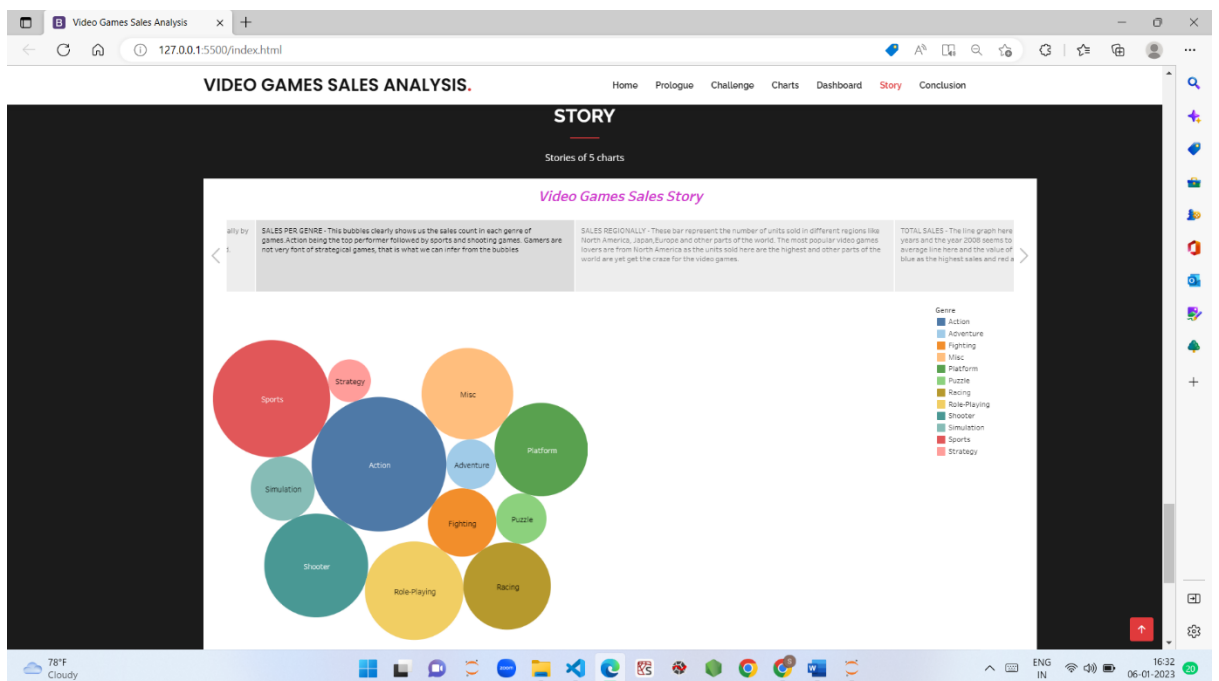
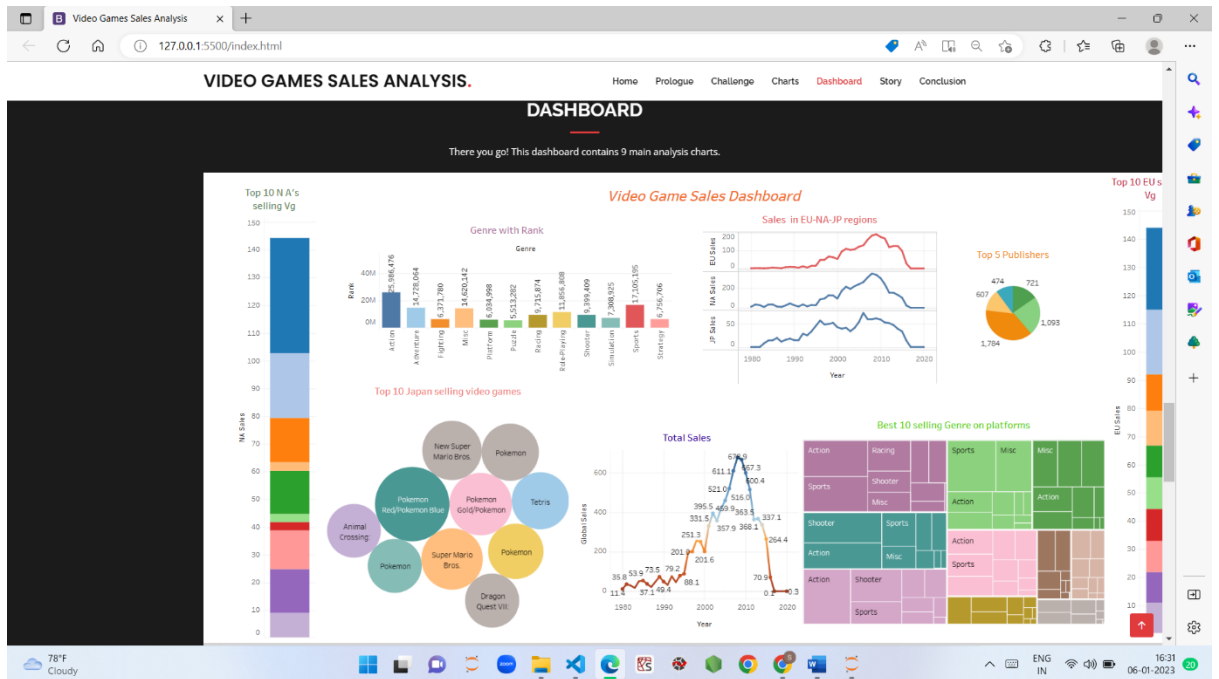
This data consists of 16999 records with 11 columns. The visualization is done using Tableau and contains 9 analysis charts.



#### DASHBOARD







## **Milestone 9: Project Demonstration & Documentation**

Below mentioned deliverables to be submitted along with other deliverables

**Activity 1:- Record explanation Video for project end to end solution**

**Activity 2:- Project Documentation-Step by step project development procedure**

Create document as per the template provided

